JASON HENSEL

Jonah Lehrer wants to help you make better

DECISIONS.

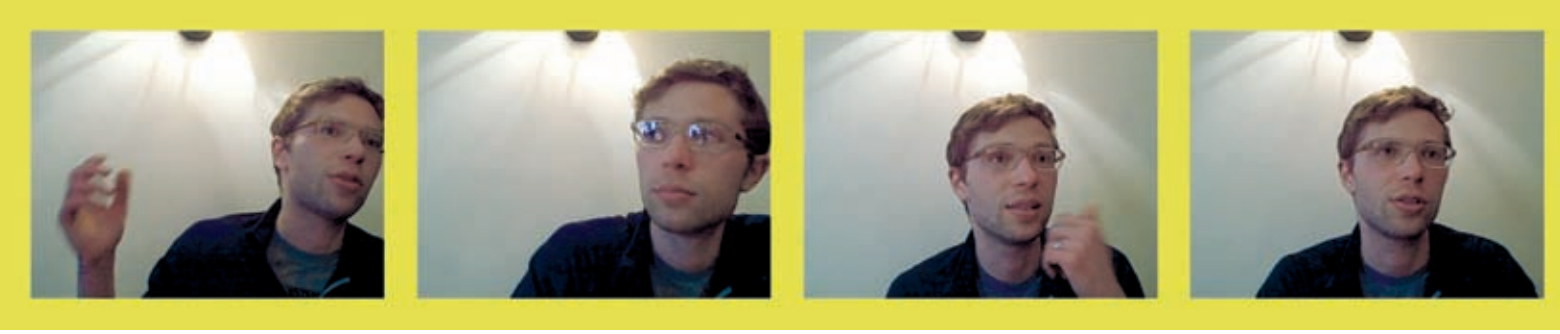
BY JASON HENSEL

It was standing room only. No, that's not quite true—some sat in the aisles of the Harvard Book Store watching the event on TVs. On that late February evening, there was the middle-aged lady in a green sweater with a scarf wrapped around her neck, an Oliver Sacks lookalike with wide eyes behind round spectacles and, up front, a young man with a mustache who leaned forward to listen attentively.

They were all there to hear Jonah Lehrer talk about his new book, *How We Decide*, a *New York Times* bestseller that explores neurological research and social psychology studies in order to exemplify how people can become better decision makers. Even if some readers find the book comparable to Malcolm Gladwell's *Blink*, Lehrer tightens the screws and successfully takes the subject to a deeper level, without pretending there are easy answers when it comes to decision making.

Lehrer's gift for turning hard scientific studies into entertaining and interesting stories has seen him published widely in publications such as the *Best American Science and Nature Writing 2007*, the *Boston Globe*, *Nature*, *The New Yorker* and *Wired*. He's an editor at large for *Seed* magazine and contributes regularly to U.S. National Public Radio's science program *Radio Lab* and the Science Channel's TV program *Brink*. And at age 27, Lehrer has been hailed by the *Los Angeles Times* as "an important new thinker."

"PROBLEMS THAT WERE MOST LIKELY TO BE SOLVED WERE PROBLEMS THAT WERE TACKLED BY A DIVERSE GROUP OF THINKERS."



"Metacognition—thinking about thinking—is a crucial skill," he says to the audience. "People need to become more sensitive listeners."

Being more aware of your thoughts can prepare you for knowing when to use your rational or emotional brain in decisions, and good decision making is about taking advantage of the different tools inside the head, Lehrer says. People make different situations benefit from different kinds of decision making, so depending on what the decision is about—breakfast cereal, cars or a potential spouse—one should think in different ways.

"I think one of the things I have tried to get away from is this idea that there is some short, secret recipe for good decision making—that it should always be rational or always blink or always trust your gut—that there is some universal solution we can always rely on," he says. "I think those are always over-simplified answers."

THE ENGINE OF YOUR KNOWLEDGE

Lehrer and his wife lived in Concord, N.H., for a few years before moving to Boston so she could work for a news service in town.

"I'm the transportable one," Lehrer says, walking down the street, his lean body carrying a shoulder bag heavy with several books he's reading. "I just go where she goes—give me a computer and I'm good to go."

"THE BEST WAY TO SOLVE A PROBLEM IS TO FOCUS ON NOT BEING FOCUSED."

It appears, though, that living in Boston is perfect for a writer interested in neuroscience and biological sciences. Strolling down Massachusetts Avenue from Harvard University to the Massachusetts Institute of Technology (MIT), one is surrounded by some of the world's finest brain study labs.

"These places have incredible traditions from William James onwards in terms of psychology, mind science in particular, but really just scientific research in general," Lehrer says. "And I think what defines Harvard and MIT, as opposed to other universities, is that they've really targeted large-scale projects and funded, very aggressively, risky research, research that is very much at the cutting edge that may or may not pan out."

If something doesn't pan out, though, it's not the end of the world. Lehrer notes that mistakes are beneficial, illuminating and downright required in order to make better decisions.

"I always think of the Bob Dylan line, 'There's no success like failure, and failure's no success at all,'" says Lehrer, whose love of music favors alt-country and indie rock. "One thing I really wanted to get into the book was this work by Carol Dweck. She's done well-controlled studies that show that kids who see learning, see the mistakes as part of learning and thus want to make mistakes and learn from their mistakes end up doing much better over a course of a few months."

This is where neuroscience, he says, can help clarify thoughts about education and pedagogy in general—actually seeing how brains learn, what happens at the level of individual brain cells and how one can fast forward that learning process.

"I think the natural tendency for us is to minimize mistakes," Lehrer says. "When we get home from a long day at work, the last thing we want to think about is all the stuff we messed up, all the mistakes made that day. What makes self-defined experts experts is that they think about their mistakes. Tom Brady, or any pro quarterback, spends hours watching game tape. They don't watch game tapes and look at all the stuff they did right that day, all the passes they made on Sunday. They watch game tape with all the passes they missed, all the open men they didn't find."

Consider Herb Stein, a soap opera director Lehrer says is insanely obsessed with mistakes.

"He gets home from a 16-hour day, he's been filming all day and what does he do? He grabs a beer and puts in the rough cut of that day's tape, forces himself to find 30 things he did wrong, 30 mistakes, mistakes so minor no one else notices," he says. "I was sitting there with him—I had no idea that was a mistake, I didn't even notice. And he says, 'No, I should have been six inches over to the right,' and as unpleasant as that is, I think it is a great way to learn. It is an extreme version we can all learn from, that it really is important to focus on your mistakes, dwell on them, because they are the engine of your knowledge."

RESTRUCTURE THE WORKPLACE

Learning from failure should be emphasized in the workplace, Lehrer says. Employers should allow people to fail, and then focus on mistakes and what positives can be mined from them. But even that game plan is no easy solution.

"More information doesn't lead to better decisions," he says. "Sometimes you make better decisions when you deliberately leave out information, give yourself fewer facts to work with. That doesn't mean we should start championing that fact. It just means that you have to become sensitive to the boundary nature of your brain, to the fact that you have computational limitations."

One Web site that captivates Lehrer is **InnoCentive.com**, where

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companies with huge research and development budgets, such as Kraft and General Electric, post difficult problems that they haven't been able to solve. A study led by Karim R. Lakhani, Ph.D., of the Harvard Business School, and Lars Bo Jeppesen, Ph.D., of the Copenhagen Business School, found that the site can be very effective, solving approximately 40 percent of the problems submitted.

"One of the most interesting findings is that problems that were most likely to be solved were problems that were tackled by a diverse group of thinkers," Lehrer says. "For example, if you post a microbiology problem, chances are it won't be solved by a microbiologist. Chances are it will be solved by an organic chemist getting together with a biophysicist who came together with a systems biologist or one of the people who work at the fringes of the field who know a little bit about microbiology but are not card-carrying microbiologists. They aren't stuck in that same old paradigm."

This suggests that there are tangible benefits when people from different disciplines are brought together to work on a problem outside of their traditional domains. It also demonstrates, Lehrer says, that companies should do a better job of making this part of their structures—bringing people with different viewpoints together and making sure they don't indulge in group-think, making sure they don't settle on some easy consensus right away, but actually encourage real discussion.

"A friend of mine that works at Pixar was telling me that there's one bathroom for the one big floor," Lehrer says. "He thinks it's to make people all go to the same bathroom—the executives, the animators, the writers—to encourage random interactions."

Another related idea for a better decision-making workplace is the view that daydreaming, or relaxing the mind, to solve a problem is preferable to focusing solely on a problem.

"It turns out the best way to get past a problem often isn't focus, isn't locking in and trying to force yourself to pay attention, it's usually indulging in relaxation to try and tap into remote associations," he says. "The best way to solve a problem is to focus on not being focused.

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THE IMPORTANCE OF BRAIN STUDYING

Learning about the brain can help constrain scientific theories, Jonah Lehrer writes on his popular blog, The Frontal Cortex (**www.scienceblogs.com/cortex**).

"We haven't decoded the cortex or solved human nature—we're not even close—but we can begin to narrow the space of possible theories," he wrote in a March 12 entry. "We know, for instance, that the rational agent model of *Homo Economicus* isn't particularly accurate, at least from the perspective of the brain, and that the deliberative prefrontal cortex is often out-shouted by emotional brain areas like the nucleus accumbens, insula, etc. This supports, of course, lots of observational studies that demonstrate that people rarely rely on explicit calculations of utility (or explicit calculations of anything, really) when making decisions. The anatomical details, in other words, can help settle the argument."

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That's why insights can happen when you're taking a warm shower or going for a long walk. As we learn more about the brain and how the brain actually solves problems, it should change the way we structure our workplace environments with ways to tweak our creativity and make us better at solving problems."

WE'RE SOCIAL PRIMATES

In *How We Decide* (published in the U.K. as *The Decisive Moment*), Lehrer asks the reader to consider a famous study by neuroscientist Joshua Greene of Harvard University. In the study, each subject was asked several questions about a runaway trolley, five maintenance workers and a large man.

In the first scenario, the subject is the driver of a runaway, brakeless trolley. Approaching a fork in the track at high speed, the subject must decide to do nothing (the trolley will go left and kill five maintenance workers who are repairing the track), or steer right (and kill only one maintenance worker). Greene found that 95 percent of the subjects thought it was morally acceptable to steer right and only kill one worker. However, the percentage changed with a different scenario.

In the second version of the study, each subject is told he or she is standing on a bridge over the trolley track watching the trolley race toward the five workers. Next to the subject is a large man who is leaning over the railing. If the subject sneaks up and pushes him over, he'll fall into the path of the trolley. Because he is so large, he will stop it from killing the workers. Even though the outcome is the same—one person must die in order to save five men—almost no subject agreed to push the man onto the tracks.

"That's a great study of how simply the personal human interaction engages a whole separate set of brain areas," Lehrer says. "Rationally, the mathematics in the situation are identical, and yet because you put people in a personal situation where they're forced to confront the idea of other human, fleshy beings—a body they have to push off a bridge—you see they come to a starkly different decision, with different patterns of brain activation."

Obviously in meetings, one is not contemplating pushing people off bridges, Lehrer says, "but you're meeting people and so you expect to see a different pattern of activation when you shake someone's hand, see their face, see their smile, see all their microexpressions that you're picking up subconsciously, thinking about what they're thinking. And that's a very different interaction; it's a whole different experience."

Lehrer is fascinated by notions in the early to mid 1990s that the Internet would make face-to-face meetings irrelevant. He says that one way to measure it is in terms of whether or not it's worthwhile for people to live in cities, whether or not it's worthwhile for companies to be located in Manhattan, for example, whether or not city real estate is worth the expense.

"What studies have found is that interaction is very different face-to-face," he says. "That's the way we're designed. We're social primates. So simply e-mailing back and forth or talking on the phone, you don't get that same charge. You're not acting on all the different cues, the facial expression cues, all these things that may not be rational. I think that's why, for example, people are still paying Manhattan rents. That's why cities are never going to be obsolete, why we're always going to want to have these densities where people can easily come together face-to-face not just over the phone or e-mail or a videoconference. I think that's why meetings are still so crucial."

THE POWER OF EXPECTATIONS

Born and raised in Los Angeles, Lehrer has always been interested in science.

"I remember reading my mom's old undergraduate psychology textbooks as a kid and not understanding anything," he says. "But I thought it was just so fascinating that this peculiar little organ—the brain—determined who we are."

He moved to New York and received undergraduate degrees in neuroscience and English at Columbia University, spent a couple of years in London as a Rhodes Scholar and worked in Nobel Prize-winning neuroscientist Eric Kandel's lab for more than four years as a technician before writing his first book, *Proust Was a Neuroscientist*.

"I discovered that I was a very mediocre scientist—mediocre is really being too generous," Lehrer says. "I was a really crappy scientist."

Kandel, though, remembers differently.

"Oh, that's not true," he said from his office at Columbia University. "Jonah was wonderful when he worked here. He's lively, culturally informed and very interested in cooking. I remember having a dinner party for the lab, and he made some hors d'oeuvres that were a hit."

Lehrer's love for cooking started when he worked as a prep cook in Los Angeles for a couple of summers to make gas money. Much to his surprise, he loved being in the kitchen with all its camaraderie, and he found it to be very meditative—chopping and preparing food.

"I was raised in a Jewish household, and we never had lobster," he said. "One day, I had to declaw a hundred lobsters. I didn't know what to do, my hands were a bloody mess, but I snuck a morsel of this warm, barely cooked lobster, and I thought, 'Wow, this is the best thing ever.'"

As an undergrad in New York, he continued to work in restaurants and thought about becoming a chef before realizing that it was too hard for him, that even though he loved the adrenaline rush of being slammed in the kitchen, he didn't have the stamina. He still loves to cook for himself and his wife, and his favorite meal fits his simple personality—pasta with a good tomato sauce and parmesan cheese.

"My favorite meals were always staff meals in restaurants, just cooks cooking food for themselves," he says.

One of his favorite cooking stories was when he worked at a now defunct restaurant called Le Cirque 2000.

"The line cook I was working with would bring in a 20-piece box of chicken

McNuggets and a liter of Coca-Cola every night," he says. "One night, he took a drink from the liter, screwed the top back on, but didn't screw it on properly and then slammed the bottle into the fridge. It exploded all over the fridge and into the fish soup."

The cooks panicked, because now the soup tasted like Coca-Cola, and they didn't have time to make more.

"But nobody complained," he says. "I think people thought it was some new, avant-garde thing. You pay US$30 for it, you're not going to complain—you think it's just the way it's supposed to be. That taught me a valuable lesson about the power of expectations."

IMAGINATION AND PERCEPTION

We should be a bit more skeptical of reality, according to Lehrer, because we constantly take what we expect to see and fill it in to meet those expectations.

The simplest way to demonstrate that by example is our visual blind spot—the center of our field of vision, where the optic nerve connects to the retina, creates a blind spot that our brains fill in automatically. Complete faces, rooms and objects are filled in seamlessly by an act of the imagination.

Take that further, and consider that even though vomit and parmesan cheese both rely on the same chemical (butyric acid) for their odor, people in the real world rarely confuse the two.

"We take the context—we're in a cheese store or walking down a sidewalk at three in the morning—and we use it to interpret our senses," he says. "So common sense overrules the sparsity of what is actually entering our head. I think it's that element of interpretation, that we're always filling in, making judgments about reality, that influences what we actually see and perceive. This gets back to [philosopher Immanuel] Kant who said imagination is an essential ingredient to perception. He was right—you can actually look at the brain and see that process at work."

Many people expect that making better decisions will lead them to ultimate happiness. But even though being vigilant about one's thoughts can be difficult at times, it's what makes life enjoyable.

Too often, Lehrer says, scientists come up with prescriptions that are too easy by taking suggestive research and saying, "This is the secret to happiness."

"There is no secret recipe to happiness," he says. "It's something we all find on our own. It's part of what makes us so interesting. If there was a secret recipe to happiness, we would have discovered it a long time ago, and happiness would be much less interesting. Life isn't just about moment by moment. It's about intangible things such as meaning and narrative." **one+**

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Visit our magazine blog for an exclusive video of Jonah Lehrer explaining how to avoid metacognition pitfalls.